

WHAT IS CLAIMED IS:

- Sub A3 1. A network usage recording system comprising:
- 5 A collector including:
- an encapsulator for reading a plurality of network data records from a network data source and converting the network data records to a plurality of normalized metered events;
- 10 an aggregator for processing the normalized metered events to create aggregated normalized metered events; and
- data storage system, wherein the aggregator periodically stores the aggregated normalized metered events in the data storage system.
- 15 2. The system of claim 1, wherein the aggregator includes volatile memory for temporary storage of the aggregated normalized metered events.
3. The system of claim 1, further comprising a configuration server in communication with the encapsulator, the aggregator and the data storage
- 20 system, wherein the configuration server stores configuration data for the encapsulator, the aggregator, and the data storage system.
4. The system of claim 3, wherein the configuration server communicates the configuration data to the encapsulator, the aggregator and the data storage
- 25 system at start-up.
5. The system of claim 3, further comprising a collector shell, wherein the configuration server communicates with the encapsulator, the aggregator and the data storage system via the collector shell.
- 30 6. The system of claim 1, further comprising a query manager in

Sub A³7

communication with the data storage system for querying the data storage system.

7. The system of claim 6, wherein the query manager is in communication with the data storage system via the aggregator.

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8. The system of claim 1, further comprising a statistics log, wherein the statistics log is in communication with the encapsulator, the aggregator and the data storage system for logging statistical data.

10 9. The system of claim 8, further comprising a collector operator, wherein the collector operator communicates with the encapsulator, the aggregator, the data storage system and the statistics log to provide administrative access.

10 10. The system of claim 1, wherein the encapsulator further includes a parser
15 0for parsing network data received from the network data souce.

11. The system 1, wherein the collector is configured as a network data collector.

20 12. The system of claim 1, wherein the collector is configured as a correlator collector.

13. The system of claim 1, wherein the collector is configured to perform
25 additional levels of data reduction and consolidation of data stored in other collectors.

14. A network usage recording system comprising:
a collector system including:
a collector shell;
30 a query manager;
an encapsulator;

Sub A³7

an aggregator; and
a data storage system.

15. The system of claim 14, further comprising a configuration server in
5 communication with the encapsulator, the aggregator and the data storage
system.

16. The system of claim 15, wherein the configuration server communicates
10 with the encapsulator, the aggregator and the data storage system via the
collector shell.

17. A method for recording network usage comprising the steps of:
defining a collector including an encapsulator, an aggregator and a data
storage system;
15 operating the encapsulator to read a plurality of network data records
from a network data source and convert the network data records
to a plurality of normalized metered events;
aggregating the plurality of normalized metered events to create a
plurality of aggregated normalized metered events; and
20 storing the aggregated normalized metered events in the data storage
system at periodic intervals.

18. The method of claim 17, further comprising the steps of defining the
aggregator to include volatile memory and storing the aggregated normalized
25 metered events temporarily in the volatile memory.

19. The method of claim 17, further comprising the step of defining a
configuration server in communication with the encapsulator, the aggregator and
the data storage system, and storing configuration data for the encapsulator, the
30 aggregator and the data storage system in the configuration server.

Sub A³7

20. The method of claim 19, further comprising the step of transferring the configuration data to the encapsulator, the aggregator and the data storage system at start-up.
- 5 21. The method of claim 17, further comprising the step of defining a query manager in communication with the data storage system for managing queries of the data storage system.
- 10 22. The method of claim 17, further comprising the step of defining a statistics log in communication with the encapsulator, the aggregator and the data storage system, and collecting statistics associated with the encapsulator, the aggregator and the data storage system in the statistics log.
- 15 23. The method of claim 17, further comprising the step of parsing the network data records from the usage data source read by the encapsulator.
24. A computer readable medium containing instructions for controlling a computer system to perform a method for recording network usage comprising the steps of:
- 20 defining a collector including an encapsulator, an aggregator and a data storage system;
- operating the encapsulator to read a plurality of network data records from a network data source and convert the network data records to a plurality of normalized metered events;
- 25 aggregating the plurality of normalized metered events to create a plurality of aggregated normalized metered events; and
- storing the aggregated normalized metered events in the data storage system at periodic intervals.

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